REMARKS

Claims 1-4, 6, 11-14 and 20-22 are pending in this application. For purposes of expedition, claims 5 and 15-16 have been canceled without prejudice or disclaimer. Claims 7-10 and 17-19 have been withdrawn from consideration pursuant to 37 C.F.R. §1.142(b) due to the finality of the Restriction Requirement (Paper No. 8). Claims 1-4, 6, 11-14 and 20 have been amended in several particulars for purposes of clarity and brevity that are unrelated to patentability and prior art rejections while Claims 21-22 have been newly added in accordance with current Office policy, to further and alternatively define Applicants' disclosed invention and to assist the Examiner to expedite compact prosecution of the instant application.

As a preliminary matter, the Examiner asserts that references, such as Japanese Paten Laid-Open Publication No. 63-34713, No. 2-29913, No. 5-46945 and No. 63-191570 as expressly acknowledged and described in the "Background" section of Applicants' specification have not been considered unless these references are "submitted in a separate paper" and cited by the Examiner in Form PTO-892. Actually, a separate paper is encouraged for the Examiner's convenience, that is, to provide a readily available checklist for the Examiner to indicate which identified documents have been considered. Since these Japanese Laid-Open references are publicly available documents and the Examiner has already considered them in the context of Applicants' disclosure, there is no need for Applicants to submit them in a separate paper. However, if the Examiner still insist obtaining hard copies of these Japanese Laid-Open documents, hard copies will be obtained and submitted in due course.

The drawings have been objected to because of a number of informalities kindly listed on page 3 of the Office Action (Paper No. 10). In response thereto, FIGs. 4, 9 and 13-14 have been amended to overcome these objections. The proposed amendments to FIGs. 4, 9 and 13-14 are attached herewith as Exhibit "A" and Exhibit "B".

Similarly, the drawings have also been objected to as failing to comply with 37 C.F.R. §1. 84(p)(5) for reasons stated on page 3 of the Office Action (Paper No. 10). Again, FIGs. 3, 4, 7, 9, 12-14 and 16 have been amended to overcome these objections. The proposed amendments to FIGs. 3, 4, 7, 9, 12-14 and 16 are attached herewith as Exhibit "A". A Letter to the Office Draftsman accompanies this response. Indication in subsequent Office correspondence of the acceptance to the drawing corrections proposed in the Letter, is requested to enable Applicants to timely arrange for the corrections to be made prior to the date for payment of any issue fee.

The previously submitted substitute specification has not been entered as failing to comply with 37 C.F.R. §1.125(b). As a result, the Abstract of the disclosure has also been objected to because of the length. Likewise, the spacing of lines of the originally filed specification has been found difficult to read. Again, for purposes of expedition, a substitute specification including a new Abstract is attached as Exhibit "C" for the Examiner's convenience and entry. In addition, a marked-up copy of the originally filed specification is also attached as Exhibit "D" to comply with 37 C.F.R. §1.125(b). Applicant hereby certify that the Substitute Specification contains no new matter. Accordingly, all outstanding objections to the specification, as identified by the Examiner on page 5 of the Office Action (Paper No. 10) are now

moot.

Claims 1 and 11 have been objected to because of informalities noted on page 5 of the Office Action (Paper No. 10). Specifically, the Examiner asserts that the term "above-mentioned" in claim 1 should be deleted, and the term "an optical image" in claim 11 should be "said optical image". In response thereto, claims 1 and 11 have been amended to overcome this objection.

Claims 1-5, 11-15 and 20 have been rejected under 35 U.S.C. §103 as being unpatentable over Valstyn, U.S. Patent No. 4,511,942, as modified to incorporate selected features from Lackey, U.S. Patent No. 6,093,083 and Shafer, U.S. Patent No. 5,717,518. This rejection is respectfully traversed, however. Applicants respectfully submit that features of Applicants' claims 1-5, 11-15 and 20 are **not** disclosed or suggested by Valstyn '942, Lackey '083 and Shafer '518, whether taken individually or in combination with any other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection for the following reasons.

Claims 1-5, 11-15 and 20 define a method and an apparatus for measuring dimensions and alignment error of thin film magnetic heads formed on a substrate. Specifically, independent claim 1 defines a method of measuring dimensions and alignment error of thin film magnetic heads formed on a substrate, comprising the steps of:

> illuminating a magnetoresistance effect element and a resistance detector element which is formed for monitoring a lapping process, both of which are formed on the substrate, with illuminating light whose wavelength is 300 nm or less;
> forming an image by imaging light reflected from said elements;
> converting said image to an image signal through photoelectric conversion; and
> detecting dimensions and alignment error of the

magnetoresistance effect element and the resistance detector element formed on the substrate from said image signal.

Likewise, independent claim 11 defines an apparatus for measuring dimensions and alignment error of thin film magnetic heads formed on a substrate , comprising:

a light source for emitting light whose wavelength is 300 nm or less;

illuminating means for illuminating a magnetoresistance effect element and a resistance detector element which is formed for monitoring a lapping process, both of which are formed on a substrate, with illuminating light emitted from said light source;

imaging means for obtaining an optical image of said substrate, illuminated by said illuminating means;

image pick up means for converting an optical image of said substrate, which is imaged by said imaging means, to an image signal through photoconversion; and

detecting means for detecting dimensions and alignment error of said magnetoresistance effect element and said resistance detector element formed on the substrate from said image signal that is obtained by said image pick up means.

As expressly defined in each of Applicants' independent claims 1 and 11, the dimensions and alignment error of the magnetoresistance effect element and the resistance detector element formed on the substrate are detected by using an image signal.

In contrast to Applicants' claims 1-5, 11-15 and 20, Valstyn '942, as a primary reference, only discloses the use of a lapping guide or sensor 22 as shown in FIG. 1, to accurately control the "throat height" (also known as "the distance from the pole faces to the point at which the spacing between magnetic films being to become greater than the gap length") in a magnetic film head. The lapping guide is provided to take into account the uncertainty inherent in the photolithographic processes used to form various films of magnetic heads.

Absolutely, there is **no** disclosure whatever from Valstyn '942 of any method or apparatus for measuring dimensions and alignment error of thin film magnetic heads formed on a substrate as expressly defined in each of Applicants' claims 1-5, 11-15 and 20.

Moreover, in contrast to the Examiner's assertion, this noted deficiency of Valstyn '942 cannot be remedied by either secondary references, Lackey '083 and Shafer '518. This is because Lackey '083 simply discloses a process of manufacturing disk drive sliders in order to minimize a yield loss during each bonding and debonding operation, and Shafer '518 only discloses a broad spectrum ultraviolet catadioptic image system in which an achromatic multi-element field lens is used, as shown in FIG. 1, in order to correct image and color aberrations. Neither Lackey '083 nor Shafer '518 discloses or suggests any method or apparatus for measuring dimensions and alignment error of thin film magnetic heads formed on a substrate as expressly defined in each of Applicants' claims 1-5, 11-15 and 20.

In fact, nothing in the Office Action (Paper No. 10) is there any allegation that one skilled in the art can incorporate features from Lackey '083 and Shafer '518 into the basic lapping guide of Valstyn '942 for the purposes of accurately controling the "throat height" in a magnetic film head in order to arrive at Applicants' claimed "method or apparatus for measuring dimensions and alignment error of thin film magnetic heads formed on a substrate" as expressly defined in each of Applicants' claims 1-5, 11-15 and 20.

The law under 35 U.S.C. §103 is well settled that "obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the

combination." ACS Hospital System, Inc v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The Examiner must point to something in the prior art that suggests in some way a modification of a particular reference or a combination of references in order to arrive at Applicants' claimed invention. Absent such a showing, the Examiner has improperly used Applicants' disclosure as an instruction book on how to reconstruct to the prior art to arrive at Applicants' claimed invention. This is in addition to the requirement that the prior art reference (or references when combined) must also teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and **not** based on Applicants' disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 2143. In other words, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USQP 494, 496 (CCPA 1970).

In the present situation, Valstyn '942, Lackey '083 and Shafer '5 fail to disclose and suggest Applicants' claims 1-5, 11-15 and 20. Therefore, Applicants respectfully request that the rejection of claims 1-5, 11-15 and 20 be withdrawn.

Lastly, claims 6 and 16 have been rejected under 35 U.S.C. §103 as being unpatentable over Valstyn, U.S. Patent No. 4,511,942, as modified to incorporate selected features from Lackey, U.S. Patent No. 6,093,083 and Shafer, U.S. Patent No. 5,717,518 as applied to claims 1 and 11 above, and further in view of Suzuki et al., U.S. Patent No. 5,471,084. Since the correctness of this rejection is predicated

upon the correctness of the rejection of Applicants' claims 1 and 11, Applicants respectfully traverse the rejection for the same reasons discussed against the rejection of claims 1 and 11 above.

Claims 21-22 have been newly added to alternatively define Applicants' disclosed invention over the prior art of record. These claims are believed to be allowable at least for the same reasons discussed against all the outstanding rejections of the instant application. No fee is incurred by the addition of claims 21-22.

In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including Petition and excess claim fees, to ATS&K Deposit Account No. 01-2135 (referencing case No. 501.37854X00).

Respectfully submitted,
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